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The research hardware in your video-game system

Motion sensors don't just drive gameplay. With the right software, they can scan dinosaur skulls, monitor glaciers and help robots to see.

By: Anna Nowodrodzki

Generated from News Bureau press release: [Sensor Systems Identify Senior Citizens at Risk of Falling Within Three Weeks](#)

A man with a black rectangular bar strapped to his chest walks a careful circuit around the skull of a *Tyrannosaurus rex*. It's not performance art. The black rectangle is a motion sensor called Kinect, and its wearer is using it at the Field Museum in Chicago, Illinois, in to digitally capture the precise 3D shape of the dinosaur's skull.

That's a far cry from its developer's intended application. Microsoft designed it for use in video games, enabling Xbox users to control their characters using movements and gestures rather than a handheld controller. But from the moment it was released, scientists and clinicians have been adapting the device, and other sensors including the Nintendo Wii Remote, PlayStation EyeToy and Leap Motion, to aid research in areas from robotics to glaciology to health care. They were quick to realize that the data the devices gather can be used for studies that involve measuring body movements, manipulating 3D objects or observing or building models of 3D spaces.

The sensors come with a number of perks for scientists: they are affordable (most cost US\$80–100), portable and compatible with free and easy-to-learn software. That makes them a nimble choice for many projects.

But they do have significant limitations. Their specifications, such as resolution, tend to pale by comparison with industrial hardware, for instance, and the systems work better in living rooms than in the field. And their usefulness depends heavily on the type of research being performed.

Dino dentistry

Denise Murmann's experience with Kinect as a research tool began in 2016, when she visited the Field Museum with her family. While scrutinizing SUE, one of the world's most complete *T. rex* skeletons, her nephew noticed an exhibit explaining that the dinosaur's skull was riddled with tiny holes of unknown origin. Were they bite marks? The vestiges of an infection? Murmann thought it would be fun to examine the skull the way she investigates forensic bite-mark cases in her work as a forensic dentist.

But her usual tools just weren't up to the job. SUE's skull is about 1.5 metres long and weighs 272 kilograms — far too large for highly accurate 3D dentistry scanners. So Murmann turned to the Camera Culture group at the Massachusetts Institute of Technology's Media Lab in Cambridge, where imaging researcher Anshuman Das suggested using a Kinect connected to a

laptop. The resolution would be about ten times less than achieved with the industrial scanner, Das says, but the Kinect could handle the specimen's dimensions.

So Das strapped the Kinect to his chest and walked slowly around the skull. The 3D scan revealed that not all the holes entered the skull at the same angle, so they probably weren't from a single bite. But they also tapered inwards, suggesting they were not the result of infection. The team published its findings in July (A. J. Das *et al. PLoS ONE* **12**, e0179264; 2017). Although Murmann's project is not the first time that Sue's skull has been scanned, the previous instance involved 500 hours in a computed tomography scanner normally used to inspect space shuttle components. The Kinect scan took a matter of minutes in the museum itself.

Glaciers, gaits and robots

Palaeontology is not the only field to benefit from game controllers. Ken Mankoff, a glaciologist with the Geological Survey of Denmark and Greenland, has used the Kinect to model glacier beds and the meltwater channels underneath them at 1-millimetre resolution. Such data can help glaciologists better understand how glacial melt influences sea levels. Usually, the data are collected using a LiDAR (light detection and ranging) system, Mankoff says, which can cost upwards of \$10,000.

Off-the-shelf video-game motion sensors also make convenient vision systems for robots. Robotics researchers Ashutosh Saxena of Stanford University in California and Chenxia Wu, then at Cornell University in Ithaca, New York, turned to the Kinect to design a robot that could learn a task just from 'watching' people. Their WatchBot comprises a computer and a laser pointer with a Kinect mounted on a tripod as its 'eyes'. WatchBot was able to learn what steps constituted a task, such as fetching food from an oven, well enough to identify a missed step 60% of the time — sufficiently accurate to give it potential applications in manufacturing and safety monitoring.

Other video-game sensors have proved useful in research as well. The controller made by Leap Motion in San Francisco, California, is designed to track fine hand and finger movements, and virtual-reality headsets such as the Daydream (by Google in Mountain View, California; about \$80) and Rift (by Oculus VR in Menlo Park, California; \$400–500) provide more immersive experiences. Hydrologist Willem Luxemburg at Delft University of Technology in the Netherlands used the Wii Remote to measure reservoir evaporation rates to better than millimetre accuracy. (The Wii is no longer in production, but used systems are available online, as is the case for the Kinect, which Microsoft stopped manufacturing in October. Microsoft's newer HoloLens, augmented-reality glasses that are in limited production as their development continues, uses the same core sensor that powered Kinect.)

Video-game sensors are also increasingly used in health care. Marjorie Skubic, an engineer at the University of Missouri in Columbia, began using the Kinect as soon as it was released in 2010 as a way to monitor seniors' gait and predict their risk of falling. "It was right before Christmas," she recalls. "We went around town and bought them all up. I'm afraid we might have broken some kids' hearts." The Kinect was a major improvement on her team's previous monitoring system: a webcam and a large desktop computer, she says. The computer hogged space and generated so much heat that it required noisy fans, which felt intrusive. The Kinect eliminated both these issues, requiring a much smaller computer while accurately capturing seniors' silhouettes as they moved.

Kinect the dots

To capture objects in 3D, the Kinect takes a digital image just as an ordinary digital camera does, but also measures depth using infrared light. It then combines these two data sets to create a 'depth image', in which each pixel of the image is mapped relative to its distance from the sensor. From there, the system can create a 3D model or reconstruct a skeletal representation.

Little expertise or equipment is required to exploit those data. All that's needed is an adapter (available online for about \$50) that links the Kinect to a laptop, plus a good graphical processing unit to handle the Kinect's real-time 3D constructions, Das says. "Some of these gaming laptops are perfect."

For those interested in playing with the platform, a large hacker community is ready to help. Microsoft also makes a software development kit that can be used to build custom applications that use Kinect data, and 3D Scan, a software package for object scanning, can be downloaded from the Microsoft app store. Skubic's team started using the Kinect before either of these were available, so the researchers used an open-source programming library called libfreenect from the [OpenKinect project](#).

Tiffany Tang, a researcher at Wenzhou-Kean University in China, developed a Kinect-based system to help people to read the emotions of children with autism. She has found the software — in her team's case, [Microsoft's Kinect software development kit](#) and Visual Studio — easy to get to grips with. "My student just learned this on his own in a week," she says.

That ease of adoption can come in handy, because researchers may need to change platforms to keep up with developments in the fast-paced gaming industry. At Ulster University near Belfast, UK, rehabilitation researcher Suzanne McDonough and computer scientist Darryl Charles pair video-game sensors with custom software to monitor patients' physical-therapy exercises at home and assign new ones as they progress. Over the years, McDonough and Charles have migrated from the EyeToy and Wii to webcams built for virtual-reality games, then through two versions of the Kinect to track arm and hand movements, and finally to virtual-reality headsets from Oculus and Google to provide a more immersive experience. They also use the Leap Motion sensor. "It's very good at being able to recognize gestures and natural movements of the hand," says Charles.

These tools do have substantial limitations, however. One issue with the Kinect is distance: because it was designed for living rooms, it can measure only a few metres from the sensor, Mankoff says. New algorithms, including Kintuous and ElasticFusion, allow researchers to 'stitch' data together and overcome that limitation, but other hurdles remain, especially when it comes to fieldwork. "Anything wet is a problem. Direct sunlight is a problem," Mankoff says. "Fortunately my work is in caves, but if it weren't I would have to work at night or on very cloudy days." Other issues include battery life and difficulty tracking people with unusual postures or loose clothing.

And yet, scientists continue to find creative uses for the sensors. Since Das published the *T. rex* results, he has received multiple requests from the museum and palaeontology communities to use or adapt his scanner to analyse other fossils, art and artefacts. The tool is so simple that he has used it for a face-scanning exercise at a primary school in New Hampshire, where he volunteers. "You're not going to be matching an industrial scanner, but since it's so cheap and it's easy to share data, it will encourage collaboration," Das says.

MISSOURIAN

Missourians earning low-to-middle incomes could pay less state income tax

BY BRENDAN CROWLEY

Missourians who make less than \$100,000 a year could save some money on their state income taxes because of changes in the federal tax code.

Economists at MU used a simulation program called MOSIM, first developed in 1972, to look at the possible effects of the GOP tax overhaul on Missouri's revenue. MU economics professor Joe Haslag, who ran the simulation along with research analyst G. Dean Crader, said it looks at how people filed their income taxes in 2016 and re-computes the filings with the new tax rules.

Haslag said one of the simulation's main shortcomings is that it doesn't account for the effects of the corporate income tax cut. He and some free market advocates say the corporate tax cut could spur economic growth.

But two major components of the tax bill will affect Missouri income tax: raising the standard deduction and cutting the personal exemption. Missouri adopts the same changes to deductions and exemptions made at the federal level, the report explains. Because the standard deduction was nearly doubled, the amount of income subject to tax goes down. Haslag said the simulation projects more people taking the standard deduction under the new rules.

"If their itemized deductions were smaller than the new standard deduction, they're going to switch," Haslag said.

Missouri also allows taxpayers to deduct federal taxes paid. Because the federal personal exemption was cut, taxpayers will have more income subject to federal tax and a larger deduction on Missouri taxes.

According to the simulation, Missouri taxpayers making less than \$100,000 could pay less in state income tax. Those making between \$10,000 and \$25,000 could save the most. They paid an average of nearly 36 percent less on their state income taxes in the simulation.

Those making between \$25,000 and \$40,000 saved nearly 20 percent each. The higher standard deductions brought over 130,000 Missourians below \$0 in taxable income, making them completely exempt from state income tax.

Missouri taxpayers making more than \$100,000 paid more to the state in the simulation. Those making more than \$1 million saw the largest net increase, paying an average of about \$4,800 more. Those making between \$500,000 and \$1 million saw the largest percentage increase, paying an average of almost 7 percent more.

The higher standard deductions are the key force driving changes in Missouri income taxes because they reduce the amount of income people pay taxes on, Haslag said. The higher standard deductions benefit people making lower incomes because those making higher incomes tend to itemize their deductions, he said.

“In fact the high-income folks, even though they get a lower federal income tax rate — our understanding of the bill is that there are enough caps and changes in the amount of money that they’re going to be able to deduct from their federal taxes, that they’ll actually end up paying more in Missouri tax as well,” Haslag said.

Haslag said staffers for the Missouri General Assembly asked him and Crader to run the simulation because of early reports that showed about a 10 percent hit to Missouri’s net general revenue. The MOSIM simulation came up with a **\$58 million hit** to Missouri’s revenue, about 0.6 percent of the state’s \$9 billion in net general revenue. The drop is significant, according to the report, but not catastrophic.

Haslag said he didn't know why the earlier projections were so high, because nobody reporting a 10 percent drop showed their work. He suspects someone saw the standard deduction increase, which will lower Missouri's revenue, and didn't account for the personal exemption cut, which will raise revenue.

He added that the simulation is more like a tax calculator than an economic model and only shows the immediate impact the new rules would have. It doesn't show how the new rules might change people's behavior over time.

ST. LOUIS POST-DISPATCH

A public legacy — and an opportunity to lead

By **TRUDY BUSCH VALENTINE** and **CONNIE BURKHARDT**

In the late 1940s, Trudy's grandmother Alice Busch expressed her love for the Missouri countryside with a generous gift to create a conservation area honoring her late husband, August. **Today a high-density private subdivision is being proposed on nearby land owned by the University of Missouri. Some history will help in understanding the gravity of the threat to this conservation corridor.**

At the beginning of World War II, the U.S. government acquired thousands of acres, near what is today the town of Weldon Spring, where facilities were built for munitions manufacturing for the war effort. Following the war, a number of uses were pursued for this large tract of now-unused land.

Alice Busch provided funding for the Missouri Department of Conservation to purchase the land and create the Busch Conservation Area in 1950. Ultimately, the University of Missouri received several hundred acres of land at the edge of the Busch Conservation Area for use as an agricultural experiment station, where it eventually created a research park in the 1990s.

It is this land — obtained for use as an agricultural experiment station, next to the current research park — that the university has agreed to sell to a home builder. The developer is requesting that the land currently designated as agricultural be rezoned to residential in order to allow construction of more than 400 homes and apartments.

Fortunately for Missourians, the conservation efforts started by Alice Busch inspired others. Decades after the creation of Busch and Weldon Spring Conservation Areas, Ted and Pat Jones provided funding to create Katy Trail State Park, which adjoins this property and has become the nation's longest bike path. In 1987, when the Katy Trail was being considered, the Post-Dispatch stated "the scenery along the Missouri River is some of the state's finest."

In recent years, Great Rivers Greenway constructed a walking and cycling trail to connect this incredible scenery to fishing, birding, photography and nature opportunities in the backyards of St. Louis and St. Charles.

This is a long history but reflective of the effort that many Missourians have put into creating and conserving a connected landscape that adds to the quality of life for thousands of visitors and residents. This public enjoyment is what those who worked so hard and gave so generously imagined. Alice Busch, Ted and Pat Jones, the taxpayers and donors who support Great Rivers Greenway, and Missouri taxpayers who support our exceptional Conservation Department didn't envision a subdivision overlooking the hillsides and trails that they conserved and created. Ironically this is happening on land owned by Missouri's land grant university.

Currently the University of Missouri's Board of Curators is recommending the sale of this land for a private housing development. This land derives much of its value because of the conservation work "in the neighborhood" over the past 70 years.

Obviously, in challenging fiscal times, adequate funding for the university is a priority, and all assets must be evaluated. Nonetheless, this is an ideal time for the curators to lead and to preserve something of lasting value for all of our citizens. If the property must be sold, there are creative ways to restrict development so that it doesn't affect the peaceful enjoyment of this beautiful and fragile bluff overlooking the Missouri River, Katy Trail and Busch Greenway. Perhaps, if given an opportunity, other "conservation buyers" would have an interest in purchasing this property — as Alice Busch did decades ago.

The university's curators are dedicated public servants in a long line of custodians of these special public properties. As leaders, it is often necessary to act in ways that extend beyond the immediate, to respect the gifts that all of us have been given by generous donors. To us, this is such an opportunity, one that would benefit from additional thought by the university. This proposal would change forever the face of this very special place that others have worked for decades to conserve.

The Anniston Star

Daily newspaper serving Anniston, Alabama

Experts: For Star, sexual harassment policy may not go far enough

New policy in works after former publisher acknowledges assault

By: Tim Lockette

Generated from News Bureau expert pitch

When former Anniston Star publisher H. Brandt Ayers acknowledged an assault on a former reporter earlier this week, the newspaper announced that a new sexual harassment policy was in the works in response to allegations against Ayers.

Scholars who study sexual harassment say the new policy alone likely is isn't enough.

“It’s by no means the last step an organization should take, but it’s usually the first step. It’s the easiest step,” said Debbie Dougherty, a University of Missouri professor who studies communication within organizations.

Brandt Ayers is the former publisher and third-generation owner of Consolidated Publishing, which owns The Anniston Star. He’s now the chairman of Consolidated’s board of directors and a regular contributor to the Star’s editorial page.

After a former reporter, Veronica Pike Kennedy, came forward with a claim that Ayers forcibly spanked her in the 1970s — an account supported by an eyewitness — Ayers on Tuesday acknowledged that he spanked another reporter, Wendy Sigal, in her own home in 1973 or 1974. Two other women have told The Star of similar incidents they experienced, though both declined to speak on the record out of concern for the effect the exposure would have on their careers and families.

Asked Tuesday about The Star’s response to Ayers’ admission, Star publisher Bob Davis said the newspaper has already begun work on a new sexual harassment policy that will offer a clear

path for reporting sexual harassment. He said the policy has been under development since November, when The Star first began looking into allegations about Ayers.

“There will be a clear path to reporting allegations of misconduct, and a path for investigating those allegations,” Davis said Wednesday.

Ninety-eight percent of organizations in the country have some form of sexual harassment policy, according to Dougherty. At The Star, though, it’s not entirely clear what policy is in place.

A one-page passage in a 2001 company handbook outlines a policy forbidding “unwelcome sexual flirtations, touching, advances or propositions” and similar violations and instructions on how to report them. Those handbooks haven’t been distributed to new employees in years, editors say.

The new policy draft may simply be low-hanging fruit, however. The allegations against Ayers stem from the 1970s, before many of The Star’s current reporters were born. Ayers, 82, has made only rare appearances in the newsroom in recent years.

Most workplaces didn’t develop harassment policies until the late 1970s and early 1980s, when sexual harassment began to be considered a form of discrimination under Title VII of the Civil Rights Act, said Caren Goldberg, a management professor at Bowie State University in Maryland and consultant on sexual harassment court cases.

Goldberg said those policies are often crafted by lawyers, in response to crises, and don’t by themselves solve problems with workplace culture.

“I certainly wouldn’t say, ‘Don’t have a sexual harassment policy,’ but it’s like a New Year’s resolution,” she said. “There’s a lot of good intention, but there has to be a willingness to follow through.”

Both Goldberg and Dougherty said an organization facing a sexual harassment crisis needs to do more to address the issue.

“The first thing I would be asking myself is, ‘Is this organizational, is this a cultural problem, or is it one bad dude?’” Dougherty said.

“A proper response would probably include severing ties with him, though, I realize it’s a family paper,” said Goldberg.

Ayers said Tuesday he has no intention of resigning as chairman of the newspaper company.

Dougherty said research shows that employees often misunderstand written harassment policies. In focus groups, she said, workers often come away worried that common behaviors would be perceived as harassment — rather than reading the policies as bans on concrete, exploitative behaviors.

She advises policies that use more emotional language — describing harassment as “predatory sexual behavior,” for instance — instead of the legalese of some policies.

Goldberg and Dougherty both said it’s best to include language protecting bystanders who report harassment they’ve observed, or even requiring them to report it.

“Most people who are harassed do not report it,” said Lynn Bowes-Sperry, a management professor at Western New England University. “Sometimes they’re embarrassed. They fear retaliation and they fear they won’t be believed.”

Bystanders often feel they’re more likely to be believed, Bowes-Sperry said. Workplaces should not only protect them but train them in how to respond to harassment incidents, she said.

The Star’s new policy is being drafted by a lawyer, Kyle Smith of the Birmingham firm Sirote and Permutt. Smith said Wednesday that he couldn’t discuss the work due to attorney-client privilege.

Davis said there will be protections for both targets of harassment and bystanders who report harassment under the new policy. He said the new policy would apply even at the highest levels of the company.

“I don’t see any exception, in what we’re putting together, for any person,” he said.

The Washington Post

Sticking to your New Year's resolution is not about willpower

By: Caroline Benner

Comment from MU professor Kennon Sheldon on page 3

As far as goals go, hiking the 2,650-mile Pacific Crest Trail is one of the more ambitious ones. When you ask people how they did it — something I've been doing for the past two years as a journalist — they don't credit willpower. Instead, they say pursuing the goal made them feel fully alive.

Perhaps you have heard the advice to choose goals that make you feel alive, but didn't know where to begin. If so, the work of positive psychology pioneer Martin Seligman of the University of Pennsylvania could help.

Seligman might call feeling fully alive "flourishing." To flourish, you need to cultivate five different elements of well-being, ranging from positive emotions to a sense of meaning. As Seligman told me, he believes the more of these elements you experience as you pursue a goal, the more likely you are to stick with it, whether your goal is to write a novel, start a new career or just exercise more.

1. Positive emotions

Positive emotions, the first component of flourishing, range from pleasure and comfort to enthusiasm and awe. For example, trail hiker Andy Dischekenyan described moments of bliss outdoors: "The bird songs, the crisp air, the wind dancing through the trees, the sun kissing my face as it sets. ... sleeping under a blanket of a trillion stars."

It was one such moment that helped him through his lowest period on the trail. One night, he was exhausted, in pain, and wanted to stop — but then he found a beautiful campsite. "While watching the sunset, the pain from my knee, my anger and my fears, all washed away. My smile returned. Everything was okay once more," he says.

"Positive emotions can help turn threat-related thoughts ('There's no way I can do this') into optimistic thoughts ('I have the resources to do this')," says Christian Waugh of Wake Forest University. They accomplish this by promoting stress responses that are helpful. For example, as

research by Judith Moskowitz and her colleagues has demonstrated, experiencing positive emotions in the midst of stress helps replenish resources that are typically depleted by stress, allowing people to keep up their normal roles and activities.

Positive emotions also promote problem solving and creative thinking, according to Barbara Frederickson and Christine Branigan. They broaden the scope of our attention and inspire novel thoughts and actions, which over time allows us to develop more skills and resources.

So if the route to your goal offers you moments of positive emotion, you might stick to it better. If you are wondering if you should revisit that half-complete novel in your desk drawer, consider whether the act of writing — thinking of the perfect phrase or finishing a chapter — gives you pleasure or satisfaction.

2. Engagement

Engagement is the state of flow, an experience when you are completely absorbed and time seems to stand still or pass in a flash. Hiker Mandie Carter describes the flow state in her online journal.

“We gave the trail all we had. ... I was in a sort of transcendental meditation thing. ... thoughts were woven together like lace over the fabric of my breathing. My feet made a rhythmic crunch crunch crunch and over top of that was my breath, in, in, ouuut ... in, in, ouuut.” Even during a 20-mile uphill struggle, the miles seemed to pass unnoticed for Mandie. “I can’t really tell you much about this section,” she writes.

The flow state does seem to help our performance “mainly by facilitating the focus of attention for an extended period,” says Brian Bruya, the editor of [Effortless Attention](#).

Experiencing flow also encourages us to keep pursuing a goal. “When the activity is difficult and takes a long time to achieve the goal, it helps to experience flow,” Mihaly Csikszentmihalyi, the author of [Flow](#), told me. He explained: If your goal is to perfect your baseball game and you experience flow from playing baseball, you will continue to play baseball even if a particular game is not enjoyable.

Approach your goals, then, in a way that maximizes your chances of experiencing flow. Flow is most likely to occur when the challenge of what you are doing matches your skill level. If you are a new runner training for a marathon, don’t push yourself to sprint hills on the first day. Wait until you are a more skilled runner for that challenge.

3. Relationships

Hiker Caleb Miller knows something about relationships on the trail. He met a woman at mile zero and married her at mile 445. Their partnership pushed him to hike farther than he had planned. “I didn’t realize how crucial the camaraderie would be, how powerful it is in keeping you going,” he says in the memoir his wife wrote about their hike.

“There is a good deal of research that social support (the tangible, informational, or emotional help) we receive from others is an integral part of reaching one’s goals,” says Shelly Gable of UC Santa Barbara.

A [2008 study](#) demonstrates how social support helps when we encounter hurdles. “We showed that when a friend was actually present, or when participants merely thought of a supportive significant other, a steep hill looked less steep. This suggests that people rely on close others when considering how difficult tackling a given environment might be,” says lead author Simone Schnall.

Consider how to strengthen your connection to others as you pursue your goal: If you want to lose weight, think about joining a support group like Weight Watchers or recruiting friends to join you at healthy restaurants.

4. Meaning

Meaning is belonging to, and serving, something you believe is bigger than the self. Hiker Natalie Chudacoff, who works as a director at a nonprofit science camp, called the Pacific Crest Trail “grad school.” On trail, she says, “I would be learning and living the goals I wanted to have accomplished to make myself a better and more qualified camp director.”

With a couple hundred miles to go in the hike, she had had enough. So she told herself this part of the hike was “final exams.” “Like grad school, you don’t quit because finals are hard,” she told me. Thinking of her larger purpose, which was serving the youth who attend her camp, helped her finish.

“Research in psychology shows that meaning is a strong motivating factor,” says Evgeny Osin, of Russia’s National Research University Higher School of Economics.

In [yet another study](#) on how we perceive hills, researchers found that people with a greater sense of purpose thought the same hill required less effort to ascend and wasn’t as steep.

So reflect on whether your goal serves a larger purpose. If you want to start your own business, do you believe your product contributes to the greater good of society? Alternatively, think about how you can add meaning to your goal: Will you earmark a percentage of your profits for charity?

5. Accomplishment

In her Pacific Crest Trail guidebook, Jackie McDonnell wrote that “the sense of accomplishment is overwhelming” during a hike. She elaborated over email: “The place where we go to sleep is 50 miles from the place where we woke up yesterday morning And we WALKED here. You can’t help but feel powerful when this is your way of life.”

Where does that sense of accomplishment, success, and mastery that Jackie describes come from? “The main answer is intrinsic motivation,” says Kennon Sheldon of the University of Missouri.

People who have intrinsic motivation, who pursue a goal for its own sake, tend to exhibit more perseverance and resilience, says Patty O’Grady of the University of Tampa. In [one study](#), Sheldon found that “people are most likely to be effective when they pursue goals that either engage their natural interests or express their authentic personal values.”

When you think about why you are pursuing a goal, is your first thought of an intrinsic reward? Do you want to learn Spanish because you find the language beautiful? Or are you learning Spanish for an extrinsic reward, say, the pay raise your company gives to Spanish speakers?

Seligman’s framework may be helpful for thinking about goals, but it is not a magic formula. Mandie, the hiker who experienced flow, left the trail short of her goal, at mile 800. Indeed, psychologists caution that some elements of well-being can work against us. For example, experiencing positive emotion during goal pursuit might make it harder to achieve a goal, because feeling good about our progress can make us [reduce our effort](#).

Many of the Pacific Crest Trail hikers I interviewed said the hike was one of the best experiences of their lives. By choosing goals that nourish different aspects of our well-being, the rest of us can hope to feel the same.



[Sigma Alpha Epsilon releases cease-and-desist letter to University of Missouri chapter](#)

By: Elizabeth Duesenberg

COLUMBIA, Mo. - Sigma Alpha Epsilon released the cease-and-desist letter for the University of Missouri chapter on Wednesday.

ABC 17 News [previously reported](#) that the chapter was ordered to immediately stop all operations.

The letter states that the order is a result of serious health and safety concerns including potential violations stemming from mistreatment of new members. It also states if cooperation is not given the chapter may be closed.

You can read the entire statement from SAE on the University of Missouri chapter below:

<http://www.abc17news.com/news/sigma-alpha-epsilon-releases-cess-and-desist-letter-to-university-of-missouri-chapter/680990867>

MISSOURIAN

SANDY DAVIDSON: Could First Amendment protect a box of poop?

SANDY DAVIDSON

Sandy Davidson, Ph.D., J.D., teaches communications law at the MU School of Journalism. She is a curators' distinguished teaching professor and the attorney for the Columbia Missourian.

On Dec. 23, Robby Strong, a psychologist working for Los Angeles County, misdelivered his holiday gift for Treasury Secretary Steven Mnuchin to Mnuchin's next-door neighbor. The card said, "To Stevie." Inside the printed "Merry Catmess" card appeared a hand-written message: "We're returning the 'gift' of the Christmas tax bill. It's bull****. Warmest Wishes, The American People." Continuing a scatological theme, the content of the box was neither feline nor bovine but equine. Yes, the big Christmas-wrapped box contained horse manure.

Strong had announced what he was planning by posting on Facebook a picture of himself, showing his big beard and shovel, and a message that included: "No disguises, no fake names. Totally owning this one. You're only powerless if you do nothing."

Strong didn't envision the lockdown of Mnuchin's Bel Air neighborhood while authorities determined whether the box contained explosives. Yet he remained unrepentant, saying on public radio station KPCC: "What I did, I would like to compare to what Jesus did when he went into the temple and overturned the tables of the money-changers, who were exploiting the people financially in the name of religion."

While it might be a stretch to compare Jesus' overturning the money-changers' tables to Strong's delivering a box of horse poop, Strong was clearly sending a message. He was exercising his First Amendment rights in a most primitive way.

Words are not needed to deliver some messages. A blown kiss sends a sweet message, while on the opposite end of the pleasantness spectrum, an extended middle finger likewise sends a message.

These wordless messages can be lumped under the heading of "symbolic speech" or "expressive conduct." The U.S. Supreme Court has decided quite a few cases in this area of law.

The 1969 case of *Tinker v. Des Moines Independent Community School District* involved the wearing of black armbands as a form of symbolic speech showing displeasure with the Vietnam War. Mary Beth Tinker, her brother John and another student wore armbands, got suspended from school, sued and won. The high Court made clear that the children had the right to wear armbands at school as long as they could do so without "materially ... interfering with the requirements of appropriate discipline" or "colliding with the rights of others."

The *Tinker* case contained many pro-freedom statements, such as: "In our system, state-operated schools may not be enclaves of totalitarianism. ... Students in school as well as out of school are 'persons' under our Constitution."

This case also has a local connection. After the *Tinker* siblings' wrongful suspension from school in Des Moines, their family moved to Fayette.

Burning draft cards also became a form of dissent during the Vietnam War, but the Supreme Court ruled the government could outlaw draft-card burning. The Court devised the O'Brien test to determine whether a "government regulation that impacts on expression is justified." The test requires that the government have an "important or substantial governmental interest," but the most important consideration is whether this interest is "unrelated to the suppression of free expression." In short, the government must show it has another reason for regulating the expressive activity besides suppression of expression — that the restriction on free expression is an "incidental restriction," not the purpose of the regulation.

The national draft law made knowingly destroying or mutilating one's draft card a crime. There was another important reason for that law besides suppression of expression, namely, the orderly administration of the draft law.

But the Supreme Court could find no reason for a Texas regulation against flag burning other than suppression of expression. Here are the facts: When Dallas was hosting the 1984 Republican National Convention, Gregory Lee Johnson marched through city streets, denouncing then-President Ronald Reagan and burning an American flag while other protestors chanted, "America, the red, white, and blue, we spit on you." No one was threatened with injury, but Johnson was convicted of desecration of a venerated object (the flag, not Ronald Reagan).

In 1989, the Court ruled 5-4 that Texas did not have an interest in outlawing flag burning that was unrelated to suppression of free expression. Texas had other laws to handle disturbances of the peace.

Congress reacted by passing a federal law prohibiting burning of the American flag, and the Supreme Court struck that law down, too.

The Court has also dealt with nude dancing as expressive conduct. A 1991 case started in South Bend, Indiana, which required exotic dancers to wear "pasties" and "G-strings." The owner of the Kitty Kat Lounge wanted his "go-go" dancers to go-go in the nude. The Supreme Court said "no-no," deciding 5-4 that Indiana didn't violate the First Amendment by forbidding nude dancing. Public nudity is the evil Indiana wants to prevent, not erotic dancing, the Court said, adding that "The requirement that the dancers don pasties and a G-string does not deprive the dance of whatever erotic message it conveys; it simply makes the message slightly less graphic." The Court upheld that view in 2000 in another nude-dancing case, *City of Erie v. Kandyland*.

What about mooning as symbolic speech? In 2006, a Montgomery County Circuit Court judge ruled that mooning is distasteful but not illegal in Maryland. Judge John Debelius III opined that if "exposure of half of the buttock constituted indecent exposure," then beachgoers wearing thongs would also be guilty. One of the defense attorneys commented on the ruling, saying it should "bring comfort to all beachgoers and plumbers" in Maryland.

Likewise, the United States Court of Appeals for the District of Columbia Circuit made a similar ruling in the 1986 case of protester Mercedes Duvallon, who stood in front of the Supreme Court wearing nothing but a cardboard sign and perhaps a smile. The court rejected the “indecent exposure” charge against her for exposure of her bare buttocks.

But since the Supreme Court hasn’t heard a mooning case, one could say we don’t yet have the bottom line on mooning questions.